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the salt is commonly extracted from soil of several types rather from the water itself. This practice would be expected to arise in a country of inland salines, not along the seacoast. Moreover, fractional evaporation is used to give different products, according to Apenes, the last of the liquors being the source of saltpeter. We cannot yet be sure that the whole complex is pre-Cortesian, but it suggests a knowledge of limnologic and soil chemistry among the Aztecs that was at least as great as their ceramic and metallurgic skill would imply.[4] The point is not only of considerable importance, but is capable of verification by chemical archaeology; that no attempt to do so has been made so far is another indication that the scientific knowledge of non-Western peoples exceeds in some respects that of the historians and ethnographers who study them.

Salt is one of the seldom-considered essentials of human welfare. Mendizábal makes the provocative point that if the Aztecs had been more generous with their salt, the Tlaxcálans (who had no salines in their domain) might not have been so ready to ally themselves with Cortés, and the course of history might have been rather different.

HYDROGRAPHY. The demonstration that the Aztecs had detailed knowledge of all aspects of their lakes that might be used for human sustenance is not itself a proof that they had a developed limnologic science. Far more primitive people have known and done as much, and none of the practices mentioned, with the possible exception of fractional evaporation of salt water, are beyond the capabilities of the Banyoro, for example, who live on Lake Albert in Africa (Worthington and Worthington, 1933). The urbanization of Tenochtitlán, however, brought problems in its train that simpler societies could hardly have faced. Lake *villages* are known all over the world, but lake cities are much less usual. In meeting these problems the Aztecs and their

[4] A piece of chemical knowledge that has been entirely overlooked is the manufacture of some salt from urine. Bernal Diaz del Castillo (1910 edition, p. 72) mentions the sale of "many canoes full of human excrement, and these were kept in the creeks near the market, and this they use for making salt or tanning skins, for without it they say that they cannot be well prepared". The reference to tanning of skins shows clearly that the excrement was urine and not feces, for the tanning properties of uric acid are still taken advantage of in modern Mexico; moreover, Bernal Diaz goes on to describe the collection of feces and their use as fertiliser. What "salt" other than uric acid or sodium chloride could have been extracted from urine is problematical; nitrates would have been the most valuable, and they could conceivably have been separated from the chlorides by fractional evaporation, as in the case of salt water. In the history of western chemistry the most important salt found in urine was microcosmic salt, $NH_4\ NaHPO_4 \cdot 2H_2O$, which served Brand as the source of phosphorus.